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EXAMINER

SMITH, PETER J

ART UNIT	PAPER NUMBER
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2176

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/638,082	DEAN ET AL.	
	Examiner	Art Unit	
	Peter J Smith	2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This action is responsive to communications: amendment filed on 2/22/2005.
2. Claims 1-25 are pending in the case. Claims 1, 10, 12, 20, 22, 23, and 25 are independent claims.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 10-11, 20-21, and 23-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Dependent claims 11 and 21 include a “carrier wave” which is non-statutory because it does not fit into any of the three statutory product classes because it is non-physical. See MPEP §2106:

For the purposes of a 35 U.S.C. 101 analysis, it is of little relevance whether the claim is directed to a machine or a process. The legal principles are the same. *AT &T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1357, 50 USPQ2d 1447, 1451 (Fed. Cir. 1999).

(a) Statutory Product Claims

Products may be either machines, manufactures, or compositions of matter.

A *machine* is “a concrete thing, consisting of parts or of certain devices and combinations of devices.” *Burr v. Duryee*, 68 U.S. (1 Wall.) 531, 570 (1863).

A *manufacture* is “the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties or combinations, whether by hand labor or by machinery.” *Chakrabarty*, 447 U.S. at 308, 206 USPQ at 196-97 (quoting *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11 (1931)).

A *composition of matter* is “a composition of two or more substances [or] . . . a[] composite article, whether [it] be the result[] of chemical union, or of mechanical mixture, or whether . . . [it] be [a] gas[], fluid[], powder[], or solid[].” *Id.* at 308, 206 USPQ at 197 (quoting *Shell Development Co. v. Watson*, 149 F. Supp. 279, 280, 113 SPQ 265, 266 (D.D.C. 1957), *aff’d per curiam*, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958)).

If a claim defines a useful machine or manufacture by identifying the physical structure of the machine or manufacture in terms of its hardware or hardware and software combination, it defines a statutory product. See, e.g., *Lowry*, 32 F.3d at 1583, 32 USPQ2d at 1034-35; *Warmerdam*, 33 F.3d at 1361-62, 31 USPQ2d at 1760. Office personnel must treat each claim as a whole. The mere fact that a hardware element is recited in a claim

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does not necessarily limit the claim to a specific machine or manufacture. Cf. *In re Iwahashi*, 888 F.2d 1370, 1374-75, 12 USPQ2d 1908, 1911-12 (Fed. Cir. 1989), cited with approval in *Alappat*, 33 F.3d at 1544 n.24, 31 USPQ2d at 1558 n.24.

A claim limited to a machine or manufacture, which has a practical application in the technological arts, is statutory. In most cases, a claim to a specific machine or manufacture will have a practical application in the technological arts. See *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557 (“the claimed invention as a whole is directed to a combination of interrelated elements which combine to form a machine for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means. This is not a disembodied mathematical concept which may be characterized as an abstract idea,’ but rather a specific machine to produce a useful, concrete, and tangible result.”); and *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601 (“the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces a useful, concrete and tangible result’ – a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.”). Also see *AT & T*, 172 F.3d at 1358, 50 USPQ2d at 1452 (Claims drawn to a long-distance telephone billing process containing mathematical algorithms were held patentable subject matter because the process used the algorithm to produce a useful, concrete, tangible result without preempting other uses of the mathematical principle.).

The three statutory product classes have traditionally required physical structure or matter. The claimed carrier wave has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine. The claimed carrier wave is not matter, but a form of energy, and therefore is not a composition of matter. A manufacture can be an article produced from raw or prepared materials by manipulating the raw or prepared materials. A manufacture is also defined as the residual class of product. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. Thus, the Examiner concludes that the claimed carrier wave is not one of the three statutory product classes.

Independent claims 10, 20, and 23 are rejected as non-statutory because they recite a computer readable medium, which in view of Applicant’s disclosure, specification page 6 line 19 – page 7 line 2, the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., CD-ROM, floppy disk, tape, flash memory, system

memory, and hard drive) and intangible embodiments (e.g., data signal embodied on a carrier wave). As such, these claims are not limited to statutory subject matter and is therefore non-statutory.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claim 25 is rejected under 35 U.S.C. 102(e) as being anticipated by Najork et al. (hereinafter “Najork ‘364”), US 6,263,364 B1 filed 11/2/1999.**

Regarding independent claim 25, Najork ‘364 discloses prioritizing a plurality of links to hyperlinked documents to be crawled and crawling a hyperlinked document using one of the prioritized plurality of links in col. 2 line 58 – col. 3 line 27.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Najork et al. (hereinafter “Najork ‘265”), US 6,321,265 B1 filed 11/2/1999 in view of Najork et al. (hereinafter “Najork ‘364”), US 6,263,364 B1 filed 11/2/1999.

Regarding independent claim 1, Najork ‘265 teaches sending a request for additional links to hyperlinked documents to a link manager in fig. 2-4 and col. 5 line 53 – col. 6 line 6. The Frontier data structure queues organize and manage the links to hyperlinked documents and act as a link manager for the web crawler. The Frontier data structure provides links to the web crawler. Najork ‘364 further teaches how the Frontier data structure provides links in col. 3 line 58 – col. 4 line 17. Najork ‘265 teaches receiving a plurality of links to hyperlinked documents to be crawled in col. 1 lines 31-47 and col. 3 lines 3-52. Najork ‘265 teaches grouping the plurality of links to hyperlinked documents by host in fig. 7 and col. 2 lines 24-36. Najork ‘265 teaches selecting a host to crawl next according to a stall time of the host in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39. Najork ‘265 teaches crawling a hyperlinked document from the selected host in col. 1 lines 31-47 and col. 3 lines 3-52.

Najork ‘265 does not teach that the plurality of links to be crawled are selected by the link manager based on priority. Najork ‘364 does teach that the plurality of links to be crawled are selected by the link manager based on priority in fig. 2, 7-8, 12-16, col. 2 line 58 – col. 3 line 27, and col. 9 line 44 – col. 12 line 19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Najork ‘364 into Najork ‘265 to have created the claimed invention. It would have been obvious and desirable to have implemented a prioritized selection of the links so that either higher quality content or rapidly changing content

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could be higher priority and crawled over lower quality and less frequently changing links as such motivation is disclosed in Najork '364 col. 3 lines 1-27.

Regarding dependent claim 2, Najork '265 teaches wherein the stall time of the host is the earliest time in which a hyperlinked document from the host should be crawled in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39.

Regarding dependent claim 3, Najork '265 teaches selecting a host with a stall time that is earlier than the current time in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39.

Regarding dependent claim 4, Najork '265 does not explicitly teach grouping the hosts according to the number of hyperlinked documents to be crawled at each host. Najork '265 assigning hosts to queues in fig. 7, and col. 8 line 63 – col. 9 line 3. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Najork '265 to have created the combined invention. It would have been obvious and desirable to have grouped the hosts according to the number of hyperlinked documents to be crawled so that the queues could have been balanced with hosts containing small numbers of documents combined to fill a queue with a workload equal to another queue containing a host with a large number of documents to be crawled.

Regarding dependent claim 5, Najork '265 teaches examining hyperlinked documents to be crawled at each host until a host is found with a stall time that is earlier than the current time in fig. 5-7, col. 1 line 31 – col. 2 line 2, and col. 2 lines 37-62. Najork '265 does not teach examining the groups in the specific descending order of the number of hyperlinked documents to be crawled. It would have been obvious to one of ordinary skill in the art at the time of the

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invention to have combined Najork '265 and Najork '364 to have created the claimed invention. It would have been obvious and desirable to have examined the hosts in a descending order of hyperlinked documents to be crawled so that the hosts were examined in a logical order. This would have made the link selection process for the web crawler straightforward and easy to program.

Regarding dependent claim 6, Najork '265 teaches sorting the hosts in fig. 6-7 and col. 1 line 60 – col. 2 line 2 and col. 2 lines 37-62. Najork '265 does not specifically teach sorting the hosts by stall time. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Najork '265 and Najork '364 to have sorted the hosts according to stall time. It would have been obvious and desirable to have done this so that the web crawler could have crawled the sites in a time-efficient order.

Regarding dependent claim 7, Najork '265 does not teach moving the selected host to a group with one less hyperlinked documents to be crawled. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Najork '265 so that the a selected host would have been moved to a group with one less hyperlinked documents to be crawled. It would have been obvious and desirable to have done this so that the groups would have remained balanced for the web crawler.

Regarding dependent claim 8, Najork '265 teaches determining a retrieval time for retrieving the hyperlinked document from the selected host in col. 2 lines 43-52.

Regarding dependent claim 9, Najork '265 teaches adjusting subsequent stall times for the selected host according to the retrieval times in col. 2 lines 43-52.

Regarding independent claim 10, Najork '265 teaches computer code that requests links from a link manager in fig. 2-4 and col. 5 line 53 – col. 6 line 6. The Frontier data structure queues organize and manage the links to hyperlinked documents and act as a link manager for the web crawler. The Frontier data structure provides links to the web crawler. Najork '265 teaches receiving a plurality of links to hyperlinked documents to be crawled in col. 1 lines 31-47 and col. 3 lines 3-52. Najork '265 teaches grouping the plurality of links to hyperlinked documents by host in fig. 7 and col. 2 lines 24-36. Najork '265 teaches selecting a host to crawl next according to a stall time of the host in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39. Najork '265 teaches crawling a hyperlinked document from the selected host in col. 1 lines 31-47 and col. 3 lines 3-52. Najork '265 teaches a computer readable medium that stores computer codes in fig. 1 and col. 1 lines 13-30.

Najork '265 does not teach that the plurality of links to be crawled are selected by the link manager based on priority. Najork '364 does teach that the plurality of links to be crawled are selected by the link manager based on priority in fig. 2, 7-8, 12-16, col. 2 line 58 – col. 3 line 27, and col. 9 line 44 – col. 12 line 19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Najork '364 into Najork '265 to have created the claimed invention. It would have been obvious and desirable to have implemented a prioritized selection of the links so that either higher quality content or rapidly changing content could be higher priority and crawled over lower quality and less frequently changing links as such motivation is disclosed in Najork '364 col. 3 lines 1-27.

Regarding dependent claim 11, Najork '265 teaches a computer readable medium which is a CD-ROM, floppy disk, tape, flash memory, system memory, hard drive, or data signal embodied on a carrier wave in fig. 1 and col. 1 lines 13-30.

Regarding independent claim 12, Najork '265 teaches sending a request for additional links to hyperlinked documents to a link manager in fig. 2-4 and col. 5 line 53 – col. 6 line 6. The Frontier data structure queues organize and manage the links to hyperlinked documents and act as a link manager for the web crawler. The Frontier data structure provides links to the web crawler. Najork '265 teaches receiving a plurality of links to hyperlinked documents to be crawled in col. 1 lines 31-47 and col. 3 lines 3-52. Najork '265 teaches grouping the plurality of links to hyperlinked documents by host in fig. 7 and col. 2 lines 24-36. Najork '265 teaches selecting a host to crawl next according to a stall time of the host in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39. Najork '265 teaches crawling a hyperlinked document from the selected host in col. 1 lines 31-47 and col. 3 lines 3-52. Najork '265 teaches determining a retrieval time for retrieving the hyperlinked document from the selected host in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39. Najork '265 teaches adjusting subsequent stall times for the selected host according to the retrieval time in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39.

Najork '265 does not teach that the plurality of links to be crawled are selected by the link manager based on priority. Najork '364 does teach that the plurality of links to be crawled are selected by the link manager based on priority in fig. 2, 7-8, 12-16, col. 2 line 58 – col. 3 line 27, and col. 9 line 44 – col. 12 line 19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Najork '364 into Najork '265 to have

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created the claimed invention. It would have been obvious and desirable to have implemented a prioritized selection of the links so that either higher quality content or rapidly changing content could be higher priority and crawled over lower quality and less frequently changing links as such motivation is disclosed in Najork '364 col. 3 lines 1-27.

Regarding dependent claim 13, Najork '265 teaches wherein the stall time of the host is the earliest time in which a hyperlinked document from the host should be crawled in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39.

Regarding dependent claim 14, Najork '265 teaches selecting a host with a stall time that is earlier than the current time in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39.

Regarding dependent claim 15, Najork '265 does not explicitly teach grouping the hosts according to the number of hyperlinked documents to be crawled at each host. Najork '265 does teach grouping the hosts in fig. 7, and col. 2 lines 24-36. Najork '364 teaches prioritizing document downloads in col. 2 line 58 – col. 3 line 27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Najork '364 into Najork '265 to have created the combined invention. It would have been obvious and desirable to have grouped the hosts according to the number of hyperlinked documents to be crawled so that the largest groups could have been processed first and the system always attempted to have kept the number of documents to be crawled at each host the same so that the crawling would have been distributed evenly among the target hosts.

Regarding dependent claim 16, Najork '265 teaches examining the groups in descending order of the number of hyperlinked documents to be crawled at each host until a host

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is found with a stall time that is earlier than the current time in fig. 5-7, col. 1 line 31 – col. 2 line 2, and col. 2 lines 37-62.

Regarding dependent claim 17, Najork '265 teaches sorting the hosts in fig. 6-7 and col. 1 line 60 – col. 2 line 2 and col. 2 lines 37-62. Najork '265 does not specifically teach sorting the hosts by stall time. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Najork '265 to have sorted the hosts according to stall time. It would have been obvious and desirable to have done this so that the web crawler could have crawled the sites in a time-efficient order.

Regarding dependent claim 18, Najork '265 does not teach moving the selected host to a group with one less hyperlinked documents to be crawled. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Najork '265 so that the a selected host would have been moved to a group with one less hyperlinked documents to be crawled. It would have been obvious and desirable to have done this so that the groups would have remained balanced for the web crawler.

Regarding dependent claim 19, Najork '265 teaches determining a retrieval time for retrieving the hyperlinked document from a selected host in col. 3 lines 23-29.

Regarding independent claim 20, Najork '265 teaches sending a request for additional links to hyperlinked documents to a link manager in fig. 2-4 and col. 5 line 53 – col. 6 line 6. The Frontier data structure queues organize and manage the links to hyperlinked documents and act as a link manager for the web crawler. The Frontier data structure provides links to the web crawler. Najork '364 further teaches how the Frontier data structure provides links in col. 3 line 58 – col. 4 line 17. Najork '265 teaches receiving a plurality of links to hyperlinked documents

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to be crawled in col. 1 lines 31-47 and col. 3 lines 3-52. Najork '265 teaches grouping the plurality of links to hyperlinked documents by host in fig. 7 and col. 2 lines 24-36.

Najork '265 teaches selecting a host to crawl next according to a stall time of the host in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39. Najork '265 teaches crawling a hyperlinked document from the selected host in col. 1 lines 31-47 and col. 3 lines 3-52. Najork '265 teaches determining a retrieval time for retrieving the hyperlinked document from the selected host in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39. Najork '265 teaches adjusting subsequent stall times for the selected host according to the retrieval time in fig. 6, col. 1 line 60 – col. 2 line 2, col. 2 lines 37-62, and col. 3 lines 23-39. Najork '265 teaches a computer readable medium that stores computer codes in fig. 1 and col. 1 lines 13-30.

Najork '265 does not teach that the plurality of links to be crawled are selected by the link manager based on priority. Najork '364 does teach that the plurality of links to be crawled are selected by the link manager based on priority in fig. 2, 7-8, 12-16, col. 2 line 58 – col. 3 line 27, and col. 9 line 44 – col. 12 line 19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Najork '364 into Najork '265 to have created the claimed invention. It would have been obvious and desirable to have implemented a prioritized selection of the links so that either higher quality content or rapidly changing content could be higher priority and crawled over lower quality and less frequently changing links as such motivation is disclosed in Najork '364 col. 3 lines 1-27.

Regarding dependent claim 21, Najork '265 teaches a computer readable medium which is a CD-ROM, floppy disk, tape, flash memory, system memory, hard drive, or data signal embodied on a carrier wave in fig. 1 and col. 1 lines 13-30.

Regarding independent claim 22, Najork '265 teaches storing a plurality of links to hyperlinked documents to be crawled in col. 1 lines 31-47. Najork '265 teaches receiving additional links to hyperlinked documents in fig. 1 and col. 3 lines 3-52. Najork '265 teaches selecting a host to crawl next according to a stall time of the host in fig. 6, col. 1 line 60 – col. 2 line 2 and col. 2 lines 37-62. Najork '265 teaches crawling a hyperlinked document from the selected host in col. 1 lines 31-47.

Najork '265 teaches determining that more links to hyperlinked documents are desired and sending requests to multiple link managers for more links to hyperlinked documents in fig. 2-4 and col. 5 line 53 – col. 6 line 6. The Frontier data structure queues organize and manage the links to hyperlinked documents and act as link managers for the web crawler. Each link queue manages links from a specific host to provide to the web crawler and thus is similar to each of the claimed link managers. Najork '364 further teaches how the Frontier data structure provides links in col. 3 line 58 – col. 4 line 17.

Najork '364 does not explicitly teach sending requests to multiple link managers for more links to hyperlinked documents. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Najork '364 into Najork '265 and modified the Frontier queuing and indexing system of the combination to have operated the queues as a individual link managers so that links could have still be provided to the web crawler in the event one of the queues experienced an interrupted connection with the web crawler.

Regarding independent claim 23, Najork '265 teaches storing a plurality of links to hyperlinked documents to be crawled in col. 1 lines 31-47. Najork '265 teaches receiving additional links to hyperlinked documents in fig. 1 and col. 3 lines 3-52. Najork '265 teaches selecting a host to crawl next according to a stall time of the host in fig. 6, col. 1 line 60 – col. 2 line 2 and col. 2 lines 37-62. Najork '265 teaches crawling a hyperlinked document from the selected host in col. 1 lines 31-47. Najork '265 teaches a computer readable medium that stores computer codes in fig. 1 and col. 1 lines 13-30.

Najork '265 teaches determining that more links to hyperlinked documents are desired and sending requests to multiple link managers for more links to hyperlinked documents in fig. 2-4 and col. 5 line 53 – col. 6 line 6. The Frontier data structure queues organize and manage the links to hyperlinked documents and act as link managers for the web crawler. Each link queue manages links from a specific host to provide to the web crawler and thus is similar to each of the claimed link managers. Najork '364 further teaches how the Frontier data structure provides links in col. 3 line 58 – col. 4 line 17.

Najork does not explicitly teach sending requests to multiple link managers for more links to hyperlinked documents. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Najork '364 into Najork '265 and modified the Frontier queuing and indexing system of the combination to have operated the queues as a individual link managers so that links could have still be provided to the web crawler in the event one of the queues experienced an interrupted connection with the web crawler.

Regarding dependent claim 24, Najork '265 teaches a computer readable medium which is a CD-ROM, floppy disk, tape, flash memory, system memory, hard drive, or data signal embodied on a carrier wave in fig. 1 and col. 1 lines 13-30.

Response to Arguments

9. Applicant's arguments filed 2/22/2005 have been fully considered but they are not persuasive. Regarding Applicant's arguments in pages 2 and 3 that the rejection of claims 10, 11, 20, 21, 23, and 24 under 35 U.S.C. 101 is improper, the Examiner respectfully disagrees. Claims 10, 11, 20, 21, 23, and 24 are not limited to tangibly embodied computer readable mediums. In view of Applicant's disclosure, specification page 6 line 19 – page 7 line 2, the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., CD-ROM, floppy disk, tape, flash memory, system memory, and hard drive) and intangible embodiments (e.g., data signal embodied on a carrier wave). As such, the claim is not limited to statutory subject matter and is therefore non-statutory. In dependent claims 11, 21 and 24, the claimed carrier wave is not embodied on a tangible computer readable medium. For these reasons, the Examiner maintains the rejections of claims 10, 11, 20, 21, 23, and 24 as being non-statutory under 35 U.S.C. 101.

Regarding Applicant's argument in pages 3-5 that Najork '364 does not disclose all the features of the invention of independent claim 25, the Examiner respectfully disagrees. The Examiner disagrees with Applicant's allegation that URLs are not links to hyperlinked documents. A URL is an internet resource address pointing to a networked resource and is more general than a link pointing to a hyperlinked document. Thus, since a URL encompasses the

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teaching of a link to a hyperlinked document, Najork '364's teaching of prioritizing a plurality of URLs to be crawled discloses prioritizing a plurality of links to hyperlinked documents.

Therefore, the Examiner maintains the rejection of independent claim 25.

Regarding Applicant's argument in pages 5-8 that Najork '265 and Najork '364 do not teach all the limitations of independent claims 1 and 10, the Examiner respectfully disagrees. As the Examiner discusses in the rejection of these claims, the Frontier data structure queues organize and manage the links to hyperlinked documents and act as a link manager for the web crawler. The Frontier data structure provides links to the web crawler. The crawler requests links additional links to crawl from the provided queues. Therefore, the under a reasonable interpretation of the claimed invention, the crawler taught by Najork '265 and Najork '364 requests additional links to hyperlinked documents from a link manager. The links are prioritized based on which queue they are entered into. Thus, the Frontier data structure manager, which places the links into the prioritized queues, selects a plurality of links based on the priority of the links. Thus, under a reasonable interpretation of the claimed invention, the Examiner maintains that the combination of Najork '265 and Najork '364 teaches the claimed invention.

Regarding Applicant's argument in pages 8-10 that Najork '265 and Najork '364 do not teach all the limitations of independent claims 22 and 23, the Examiner respectfully disagrees. In one embodiment, the Frontier data structure queues organize and manage the links to hyperlinked documents and act as link managers for the web crawler. Each link queue manages links from a specific host to provide to the web crawler and thus is similar to each of the claimed link managers. Therefore, it would have been obvious to have used the teachings of parallel

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queues to have implemented a multiple link managers as in the invention of claims 22 and 23 so that the web crawler would have had links available to crawl even if some of the plurality of link managers were unable to have provided the crawler with links. Therefore, for the reason the Examiner maintains that Najork '265 and Najork '364 teach the claimed limitations of independent claims 22 and 23.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Smith whose telephone number is 571-272-4101. The examiner can normally be reached on Mondays-Fridays 7:00am-3:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PJS
5/6/2005


JOSEPH FEILD
SUPERVISORY PATENT EXAMINER